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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/804,382	03/19/2004	Gary Lee Sturgill II	SS3375USNA	7243

23906 7590 12/19/2005

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EXAMINER

BEFUMO, JENNA LEIGH

ART UNIT	PAPER NUMBER
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1771

DATE MAILED: 12/19/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/804,382	Applicant(s) STURGILL, GARY LEE	
	Examiner Jenna-Leigh Befumo	Art Unit 1771	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 September 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-46 is/are pending in the application.
- 4a) Of the above claim(s) 13-37 and 42-45 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-12, 38-41 and 46 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>7/04, 9/04</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:
 - I. Claims 1 – 12, 38 – 41, and 46, drawn to a spunbond layer adhesively bonded to a second layer, classified in class 442, subclass 382.
 - II. Claims 13 – 37 and 42 – 45, drawn to a composite material with a spunbond/meltblown/spunbond layer adhesively bonded to a second layer, classified in class 442, subclass 400.

The inventions are distinct, each from the other because of the following reasons:

2. Inventions I and II are unrelated. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different modes of operation, different functions, or different effects (MPEP § 806.04, MPEP § 808.01). In the instant case the different inventions have different effects. In group I, the composite material is made with a spunbond layer having a desired surface tension property which is adhesively bonded to a second layer. In group II, the composite comprises a spunbond/meltblown/spunbond composite material wherein the meltblown layer has a desired surface tension and the outer spunbond layer is adhesively bonded to a second layer. Thus, the two inventions have different basic structures and will function differently.
3. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.

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4. During a telephone conversation with Fred Strickland on December 1, 2005 a provisional election was made without traverse to prosecute the invention of Group I, claims 1 – 12, 38 – 41, and 46. Affirmation of this election must be made by applicant in replying to this Office action. Claims 13 – 37 and 42 – 45 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1 – 5, 7 – 9, 38 – 41 and 46 are rejected under 35 U.S.C. 103(a) as being unpatentable over Druecke et al. (6,139,675) in view of Rudisill et al. (5,885,909).

Druecke et al. discloses a laminate bonded together using a water-based adhesive (abstract). The laminate comprises a fibrous nonwoven layer which can be a nonwoven fibrous web bonded to a film layer (abstract). The laminate is produced by providing a first layer, applying the adhesive to the first layer, joining the second layer with the adhesive and the first layer, and removing the water, allowing the adhesive to cure (column 9, lines 15 – 30). However, Druecke et al. fails to teach using a specific nonwoven structure.

Rudisill et al. discloses a nonwoven fabric comprised of fibers which are approximately one denier and finer fibers with a very high Frazier permeability while having substantial hydrostatic head liquid barrier properties and sufficient strength (abstract). The nonwoven fabric can be made by extruding the filaments directly onto a moving belt to form a nonwoven fabric (column 3, lines 1 – 10). The fibers can be made from various thermoplastic polymers including polymers of copolymers including polyethylene, polypropylene, and polyester (column 6, lines 24 – 26). Also the fibers can be sheath-core bicomponent fibers (column 9, lines 40 – 55). A preferred bicomponent fiber includes 2GT polyester as the core material and 3GT polyester as the sheath material (column 10, lines 10 – 15). And the fibers can be treated with fluorocarbon (column 9, lines 58 – 60). The applicant's specification teaches that the product made by Rudisill et al. may be used as the first layer of the invention and has the desired surface tension (application, page 9). Further, Rudisill et al. discloses the fibers have a cross sectional size of between 6 and $90\mu\text{m}^2$ (column 5, lines 35 – 40). Round fiber with that cross sectional area would have a fiber diameter between about 2.8 and $10.7\mu\text{m}$. Rudisill et al. also discloses that the fabric is comfortable and soft as well (abstract).

Thus, it would have been obvious to one of ordinary skill in the art to use the nonwoven layer taught by Rudisill et al. at the fibrous layer in the laminate disclosed by Druecke et al. since Rudisill et al. discloses that the spunbonded layer has good barrier properties as well as having good comfort and softness. Thus, claims 1 – 5, 7 – 9, 38 – 41 and 46 are rejected.

7. Claims 1 – 5, 7 – 12, 38, 39, and 46 are rejected under 35 U.S.C. 103(a) as being unpatentable over Austin et al. (5,415,925) in view of Crenshaw et al. (4,588,457) and Strack et al. (5,681,645).

Austin et al. discloses a nonwoven structure comprising a spunbond/meltblown/spunbond structure wherein the layers are adhesively bonded each other (abstract). The spunbond layers are formed from synthetic polymers including polyesters such as polyethylene terephthalate, polyamides, polyethylene, and copolymers thereof (column 3, lines 40 – 55). These materials are the same materials that the applicant teaches in the disclosure has the claimed surface tension. Hence, the spunbond layers taught by Austin et al. would inherently possess the claimed surface tension. Further, Austin teaches that the spunbond outer layers can be made using bicomponent fibers (column 4, lines 20 – 21). The first outer spunbond layer correlates to the applicant's spunbond layer and the additional spunbond and meltblown layer correlate to the applicant's second layer. The composite material is produced by producing the separate layers, applying a light, uniform layer of adhesive to at least one surface of the adjacent webs and then contacting the webs together under pressure (column 4, lines 61 – 65 and column 5, lines 20 – 25).

The layers are bonded together by an adhesive which is preferably tacky at room temperature (column 4, lines 50 – 55). However, Austin et al. does not teach using water-based adhesive materials. Crenshaw et al. is drawn to spunbond laminates adhesively bonded together. Crenshaw et al. discloses that various latex, or water-based adhesives including acrylic polymers and vinyl copolymers, are tacky at room temperature and remain flexible and soft after it dries (column 5, lines 1 – 24). Thus, it would have been obvious to one of ordinary skill in the art to substitute the water-based adhesives taught by Crenshaw et al. for the adhesive used in Austin et al. since Crenshaw et al. discloses that the adhesive material is tacky at room temperature and remains soft and flexible after it dries.

Finally, even though Austin et al. discloses the outer nonwoven fabric layer is made by spunbonding processes, Austin et al. fails to teach the diameter of the fibers in the spunbond layer. Strack et al. is drawn to spunbond laminates. Strack et al. discloses that spunbond fibers made from known processes are general continuous and have diameters larger than 7 microns up to about 20 microns. Thus, it would have been obvious to one of ordinary skill in the use spunbond fibers with a diameter of about 7 microns as taught by Strack et al. in the spunbond nonwoven layer since it is know to make fibers of this size and the smaller diameter fibers will improve the barrier properties of the fabric by increasing the number of fibers per unit area and creating smaller pores in the fabric. Therefore, claims 1 – 5, 7 – 12, 38, 39, and 46 are rejected.

8. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Druecke et al. and Rudisill et al. as applied to claim 1 above, and further in view of Pruett et al. (5,010,165)

The features of Druecke et al. and Rudisill et al. have been set forth above. Druecke et al. discloses that the nonwoven layers can be produced from thermoplastic polymers. And Rudisill et al. discloses that spunbond fabric is made from various polymers such as polyester, and polyethylene and copolymers thereof. However, the references fails to teach using a polyester copolymer comprising polyethylene terephthalate modified with isophthalic acid or 1,4-cyclohexanedimethanol. Pruett et al. is drawn to a nonwoven fabric extruded from thermoplastic polymers. Pruett discloses that polyester copolymers which are useful in producing extruded fibers are those compositions which are crystallizable such as a copolymer of polyethylene terephthalate and isophthalic acid (column 3, line 64 – column 4, line 5). Thus, it would have been obvious to one having ordinary skill in the art to use crystallizable polyester copolymers as disclosed by Pruett et al., in the nonwoven layer of Druecke et al. since this type

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of polyester copolymer is crystallizable so that it will form fibers with good properties upon extrusion. Thus, claim 6 is rejected.

9. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Austin et al., Strack et al., and Crenshaw et al. as applied to claim 1 above, and further in view of Pruett et al.

The features of Austin et al., Crenshaw et al., and Strack et al., have been set forth above. While Austin et al. discloses that the polymer used to produce to the nonwoven layers can be copolymers of polyester, Austin et al. fails to teach what types of copolymers can be used. Pruett et al. is drawn to a nonwoven fabric extruded from thermoplastic polymers. Pruett discloses that polyester copolymers which are useful in producing extruded fibers are those compositions which are crystallizable such as a copolymer of polyethylene terephthalate and isophthalic acid (column 3, line 64 – column 4, line 5). Thus, it would have been obvious to one having ordinary skill in the art to use crystallizable polyester copolymers as disclosed by Pruett et al., in the spunbond layer of Austin et al. since this type of polyester copolymer is crystallizable so that it will form fibers with good properties upon extrusion. Thus, claim 6 is rejected.


Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jenna-Leigh Befumo whose telephone number is (571) 272-1472. The examiner can normally be reached on Monday - Friday (8:00 - 5:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terrel Morris can be reached on (571) 272-1478. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Jenna-Leigh Befumo
December 10, 2005